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Bulletin of the Woman's Hospital

N.Y. Woman's Hospital New York

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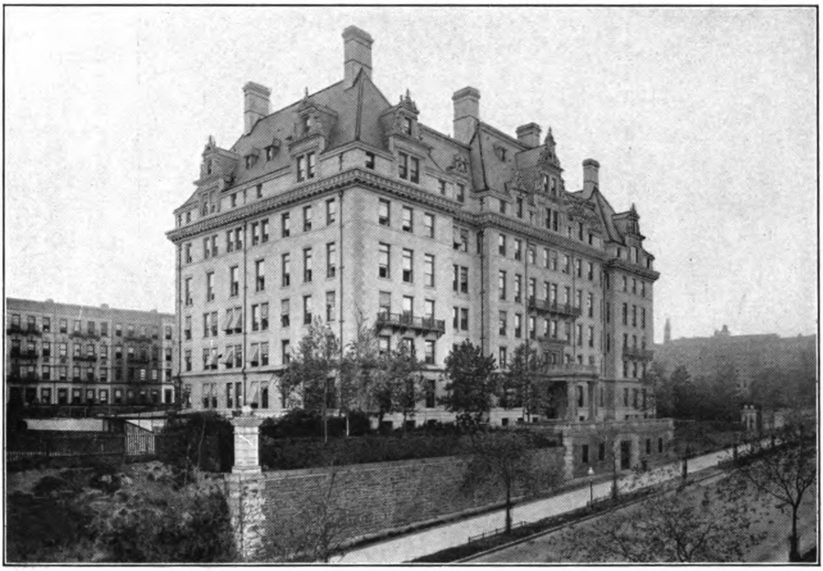

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THE BULLETIN
OF THE
WOMAN'S HOSPITAL

VOL. I. NEW YORK, MAY, 1915. No. 5

All communications should be addressed to J. RIDDLE GOFFE, M. D., Managing Editor, Woman's Hospital, 110th St. West, New York City.

The *Bulletin of the Woman's Hospital* is published for free distribution. Succeeding numbers will appear occasionally. The scientific articles are contributed by the Surgical Staff connected with the hospital and based upon work done in the hospital and the laboratories connected therewith.

The Medical Staff recognizes the fact that the Woman's Hospital was the original center of instruction in the specialty of gynecology; that here modern surgical gynecology had its berth, and that from this font was drawn the inspiration for achievement and evolution to its present high rank as a surgical specialty. The staff is also convinced that the mission of this hospital to the medical profession and to the world is not yet fulfilled; that the last word has not been spoken, nor the last chapter written.

All the problems of pelvic and abdominal surgery have not been solved by any means. Many questions of diagnosis, of surgical technic, of new surgical procedures, of physiology, of pathology, of physiological chemistry, of organotherapy and of vaccine and serum treatment invite to fresh and enticing fields of experimentation and investigation. Among these might be mentioned the influence of impaired contractility on the nutrition and function of the myometrium as suggested by the occurrence of paralysis of the uterus during intrauterine manipulation, as for instance during curetage, also spasmodic contraction as result of intrauterine irritants (experimental); nature and influence of cervical laceration or amputation of cervix on the contractile fibers of the pregnant and nonpregnant uterus; lutein influence on cyclic morphologic changes in the endometrium during menstruation and pregnancy; also the influence of lutein hyperproduction (Pick) in the causation of metrorrhagia cystic degeneration of the chorion and chorioepithelioma, etc., etc.

With a finely equipped laboratory and a salaried pathologist who gives his entire time to the work, opportunity is afforded for an investigation of the most intricate problems. The hospital is equipped with the latest and most approved electric appliances including a fulguration apparatus, for the treatment of cancer, and a radiographic laboratory. A special cystoscopist is also in attendance to assist in bladder, ureteral, and kidney diagnosis and treatment.

THE HOSPITAL

THE Woman's Hospital, New York, is a charitable institution, supported by voluntary contributions, the income of invested funds and the occupants of special wards and rooms, for the purpose of affording surgical treatment to women afflicted with abdominal or pelvic diseases, including operable cancer. A limited number of confinement cases are also received in private rooms.

At any time when the State shall contribute a sum equal to that invested in the lands, buildings, and property of said corporation, then there shall thereafter, and as long as the said corporation shall exist, be reserved in said hospital a certain number of beds, not less than one for each county in the State, for the use of poor patients, resident out of the City of New York, to be selected as the Legislature may hereafter designate; and said patients shall receive the medical attendance and care of the officers of said hospital, and be boarded therein free of expense, until, in persuance of the rules and regulations thereof, they are discharged.

Applications for admittance may be made personally at the hospital at any of the out-patients clinics or by letter directed to the hospital or to any one of the attending surgeons. Patients will be admitted in the order in which their applications are made, except that any surgical urgency in the case will always influence the visiting surgeon to admit such a patient in advance of her turn. In case of patients residing at a distance from New York City it is specially desirable that the application should be preceded or accompanied by a letter from the family physician describing the nature of the case.

The hospital has facilities for accommodating patients in all walks of life.

THE PROVINCE OF THE GYNECOLOGIST IN THE DOMAIN OF SURGERY WITH SPECIAL REFERENCE TO THE MALPOSED KIDNEY.*

BY

DOUGAL BISSELL, M. D.,

Attending Surgeon to the Woman's Hospital.

By the wording of the subject I am invited to discuss, it is admitted that gynecological surgery is a recognized and established specialty and that its limits only are in question. I am free to admit at the outset that the line of demarcation between the surgical work of the gynecologist and that of the general surgeon is at times difficult to draw, but the same is true when discussing the limits of any branch of surgery which deals with more than a very limited number of organs. Again, we may find it difficult to draw a line between two recognized divisions of a special department of surgery, as for instance, gynecological and obstetrical surgery, for injuries of the uterus, vagina and external genitals are included in both. In one, the injuries are repaired when old, in the other when new. Miscarriages and ectopic gestations would seem to be, strictly speaking, obstetrical subjects, but the gynecologist has appropriated them. Cæsarean section even is not respected by the grasping gynecologist and he has a particular fondness for fibroid and ovarian tumors complicating pregnancy, while the obstetrician considers that as these may constitute dystocia during labor they should be included in his field of work. In reality gynecological and obstetrical surgery go hand in hand and are practically inseparable, and a gynecologist without a thorough training in, as well as a practical knowledge of, obstetrics can lay claim to only a limited knowledge of diseases peculiar to women.

We should emancipate ourselves from the generally accepted limited meaning of the term "Gynecology," claiming the same right to include the urinary system in our specialty as is conceded to those surgeons who deal exclusively with diseases of the male. Further, I am puzzled to understand why the term "genito-urinary" should be applied only to surgery of the male, and claim that the same term might with propriety be applied to surgery of the female. The study of genito-urinary diseases of the female is more extensive, however, than that of the male, for the functioning of the genital organs in the former is more varied than in the latter. The genital organs of the female are in part within the peritoneal cavity and as there is a direct communication to this cavity through the genital canal for the purpose of transmitting the spermatozoa, then the fecundated ovum to its normal habitat, the pelvic viscera common to both sexes are, in the female only, subject to direct attack from certain infectious genital diseases. Therefore we of necessity are often forced to encroach upon the domains of general surgery when correcting pelvic complications so commonly met with in inflammatory diseases of the female genital organs.

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* Part of a symposium read before the New York County Medical Society, Nov. 6, 1914.

Having defined my idea of the gynecologist's work I shall now consider the particular subject I am invited to discuss, namely, "A consideration of the importance of the malposed kidney from a gynecologist's standpoint."

Renal malpositions have not received the attention they deserve, and it is the gynecologist's opportunity to discover and teach their importance as a large proportion of them occur in the female. As pathological entities their existence is questioned by many students of medicine, and even when admitted, surgical procedures for their replacement are given scant consideration. Symptoms resulting in the female from renal displacements or misplacements are many and varied and may be classified under several groups; but our interest tonight is particularly directed to those symptoms which lead the female and even her physician to believe that some genital disarrangement or disease exists. Pain as a symptom of a displaced kidney may not always exist but is frequently present and to conclude that the prolapsed kidney unaccompanied by pain is a harmless abnormality is a mistake. Further, when it exists it may be misleading, especially when located in the cæcal or ovarian region and in many such instances it is the sole reason for the removal of the appendix or ovary. Acute pain in the kidney region associated with a simple prolapsation of the kidney indicates one of two things, namely, a recent displacement of the organ or a displacement of considerable duration with distention of the upper urinary tract, the result of imperfect drainage. Those who hold that pain must be present as an active symptom before nephropexy is justified, forget that in other acute displacements, such as, for instance, retrodisplacement of the uterus, the pain exists and is usually severe at the beginning, often being mistaken for other pelvic or abdominal lesions, but subsequently disappears, followed however in the vast majority of instances, by neurotic disturbances.

The association of symptoms referable to the bladder and the genital organs of the female with malpositions of the kidney is too common to be considered coincidental. With the genito-urinary symptoms we usually find those referable to the digestive and nervous systems and not uncommonly, if the prolapsation is marked and of long standing, the resulting general condition of the female is worse than that which follows most pelvic disorders. It may not be possible to satisfactorily explain why in one case the resulting disturbance in pelvic circulation produces excessive and in another case scant menstruation, or why in one case dysmenorrhœa exists and in others it does not exist, but sufficient clinical evidence has been collected by authors in this particular field to warrant the opinion that these conditions are frequently related as cause and effect, and in my own experience the convincing evidence has been that in certain cases these symptoms were removed completely by the fixation of the kidney alone. In certain cases where I have succeeded in relieving symptoms by nephropexy only, curettage alone had been previously resorted to for the cure of excessive flow and with but temporary or no relief. In other cases curettage with repair of lacerations and even replacement of the uterus, and in still others, removal of the appendix alone, or with the ovary or ovaries as well as the removal of fibroids and diseased adnexæ, without relief, and it might also be added that in more than one instance I have ignored the prolapsed kidney when associated with other conditions of apparently greater importance, and my mistake was corrected to the benefit of the patient.

It is my opinion therefore that too frequently we attempt to diagnose by either subjective or objective symptoms alone, and as a result not only minor gynecological lesions are repaired but also major operations performed while the offending lesion is over-looked. I am convinced that if these facts were more generally appreciated fewer appendectomies, divulsions and curettages and even hysterectomies would be performed.

Prolapsation of the kidney and retrodisplacement of the uterus though frequently associated are independent in origin. As the group of symptoms accompanying each have many features in common, there is danger of the surgeon when discovering one lesion hastily concluding that the entire cause of disturbance has been found. A replacement of either of these organs alone usually meets with a disappointing result, as the correction of all elements entering into the pathology of the case is necessary to the complete restoration of the patient's health.

The history of the development of all departments of surgery presents many interesting and instructive phases but none more so than modern gynecology. We have much evidence to show that both McDowell and Sims, the men foremost in this country during the early development of modern gynecology, worked their way out of general surgery into special surgery. The study of the history of general surgery shows a comparatively slow evolution, in fact decades of obscurity in certain departments, many of which the specialist has developed with surprising rapidity. The development of a specialty means a concentration of intellectual energy and skill upon one division of a great subject and the specialist is a necessity only so long as surgeons operating generally fail in part or in whole to grapple successfully with problems at hand. The result of the specialist's efforts is a rapid development and standardizing of surgical operations and technique in a given field. When in all departments of surgery it is an accomplished fact that there exists no longer a question as to what operation or technique is best under a given condition, when the rubbish is cleared away and the entire field of surgical work remains in simplicity and perfection, the day will then have arrived when though specializing may continue, the specialist or pioneer as we today know him, having completed his usefulness, will disappear.

THE MECHANICAL ADMINISTRATION OF ANÆSTHETICS BY MEANS OF THE ETHEROMETER, A NEW APPLIANCE.

BY

FREDERIC MONTGOMERY, M. D.,

Chief Anæsthetist, Woman's Hospital, New York City.

FOR the past two years I have been experimenting upon an anæsthesia apparatus that would automatically and accurately regulate the amount of anæsthetic being administered to the patient. Recently I have perfected and simplified this apparatus and put it into practical use. Because it has so favorably impressed all those who have seen it used, and because it has been so successful in my experience, I feel justified in presenting it.

I have always been unfavorably impressed with the crude methods by which anæsthetics are usually administered. The towel-cone method, which was popular many years ago when ether anæsthesia was first introduced, is still being used in the same manner. The open-drop method which is an outgrowth of this, while it is an improvement in some ways, is still crude and unscientific, not because the method in itself is inadequate but because it is so often carelessly applied. In many hospitals it is no unusual experience to see ether being poured indiscriminately into a cone or upon a gauze face mask. In some few hospitals, where professional anæsthetists are employed, the open-drop method is properly used, the anæsthetic being administered in a steady, even dropping; but too often the anæsthetist is seen dropping the anæsthetic from a can or bottle held in the hand, the flow being regulated by means of a pin, cut stopper or gauze wick in the mouth of the container. The steadiness and regularity depend upon the hand. It is extremely irksome to hold a can or bottle in this way for several hours a day and the slightest carelessness or relaxation upon the part of the anæsthetist means an irregular flow of anæsthetic and therefore a less satisfactory and safe administration. The apparatus which I have devised obviates all these disadvantages. It automatically delivers the correct amount of anæsthetic upon the face mask and need only to be regulated by the anæsthetist.

This apparatus, which I have named the Etherometer, consists of a bottle and an air-tight cap. Connected with this cap is a piece of flexible conducting tube about two feet in length which fastens at its other end to the face mask. A specially constructed and carefully ground valve located in this cap, and operated with one hand, accurately regulates the flow of ether or other anæsthetic passing to the mask. The anæsthetic is made to flow through the tube to the mask by means of air pressure obtained by means of a small rubber hand bulb. A sight-feed on the top of the cap shows the rate of flow as the anæsthetic passes through the tube to the mask. The container being-air tight, the pressure lasts until the contents are completely expelled. Thus after one charging the apparatus works automatically until it is emptied. All that the anæsthetist has to do is to place the anæsthetic mask to which the conducting tube is attached, upon the face of the patient and set the indicator for a certain number of drops per minute which rate of flow will be accurately maintained as long as there is any anæsthetic in the container.

The appliance has perhaps its greatest use in the administration of ether or chloroform upon a gauze face mask by the so-called open-drop method. It seems hardly necessary to speak of the advantages and universality of this method. Chloroform is administered almost universally throughout the world in this manner and ether is administered in this way very generally throughout the United States.

In order to administer an anæsthetic by the open-drop method with the Etherometer it is only necessary to charge the apparatus and, having placed a Yankauer, Oxyner or other mask upon the face, to commence the dropping of the anæsthetic. Here at the outset we can see the advantages of the accuracy and control of this method. The careful initiation of an ether anæsthesia is important, as is well known, but the accurate, careful administration of chloroform is vital. Chloroform carelessly or too freely administered at the beginning is the cause of many deaths. It has been said that 50 per cent. of the chloroform deaths occur at the inception of anæsthesia. A gradually increasing or diminishing amount of anæsthetic, which can be given by this device, means a gradually increasing or diminishing percentage of ether or chloroform vapor. There are no abrupt changes. The patient is not subjected to the many disadvantages of first having to breathe free air and then suddenly forced to breathe a concentrated ether or chloroform vapor. It is these rapid changes in percentage of anæsthetic vapor that cause many of the difficulties during the early stages of anæsthesia, such as excitement, retching and vomiting and mucous secretion. With this apparatus a constant percentage of anæsthetic vapor is maintained. Without special consideration it might be supposed that this could not be obtained by the open-drop method however constant the flow of anæsthetic upon the mask might be. But I am convinced that this is the most perfect form of vapor anæsthesia, and for the following reasons: If the patient is breathing regularly, as he will do if the anæsthesia is carefully initiated, and a definite square surface of gauze of a certain thickness is used upon the face mask, and the anæsthetic is delivered upon this gauze at a constant temperature and in a constant amount per minute, there will of necessity be vaporized with each regular expiration a certain amount of anæsthetic which will pass away into the atmosphere, and there will be vaporized and inhaled with each inspiration a certain definite quantity of vapor which will vary in percentage in direct ratio to the number of drops of the anæsthetic flowing per minute upon the mask. While I have not made any experiments to accurately determine the exact percentage of the anæsthetic vapor inspired in this way, I feel satisfied from the above considerations that a very constant vapor must be maintained where the breathing is regular. Other forms of administering anæsthetics cannot be more accurate or uniform. Let us assume, for instance, that by an accurate mixture of ether vapor with air we have obtained a certain known percentage of ether vapor and we deliver this to the patient by means of nasal tubes, and that we can continue at will the administration of this percentage in any given quantity. We might naturally suppose this to be the most scientific and accurate administration of anæsthetic vapor, but there is a factor that upsets all of our calculations. This factor is the dilution of our constant vapor by air passing through the mouth. By reason of the manner of breathing or the manipulations of the surgeon in mouth cases our patient will not actually inspire the percentage of anæsthetic vapor delivered through the nasal tubes, but may get irregular percentages depending upon the admixture with air by way of the mouth. Another vapor method, which as ordinarily carried out is even less accurate, is the method consisting of blowing air through a liquid anæsthetic and delivering the vapor thus produced to the patient by means of nasal or mouth tubes. Here we have all of the faults of administration of an anæsthetic by nasal tubes, and in addition we cannot by this method be sure of the percentage of anæsthetic vapor that we have to start with, or control with any degree of accuracy this percentage, as it varies with the rate of flow of the air which is more or less intermittent, and with the temperature of the liquid anæsthetic which becomes colder and colder as the air is passed through it. When we introduce the element of heat in this method we still further complicate matters. In our open-drop method with an accurately controlled flow of anæsthetic, as administered by the Etherometer, the heat of the expiratory air does the work of vaporization and is a definite quantity.

Intra-tracheal anæsthesia is a rational and scientific procedure but it requires such elaborate apparatus and so much skill and experience for its proper performance that it can never come into general use. Next to this method I believe that the accurate mechanical administration of anæsthetics by the open-drop method is the most scientific, and this method is so simple and easy of operation that it can be safely placed in the hands of the majority and used almost universally.

Having shown how a definite percentage of anæsthetic vapor may be obtained by this method of mechanical anæsthesia, I want to call attention to the fact that the majority of patients, after they are anæsthetized, may continue to be satisfactorily anæsthetized by the administration of an unvarying percentage of anæsthetic vapor. This fact, which is borne out by actual experience and is well understood by those who give anæsthetics to any extent, makes the mechanical administration of anæsthetics the ideal method. The patient, as we have shown, is carefully gotten under the influence of the anæsthetic, and having been brought to the proper degree of anæsthesia is maintained in this condition by dropping a constant number of drops per minute, which number is slightly diminished toward the end of the operation and is slightly increased from time to time if any undue irritation is anticipated, such as palpation of the gall-bladder, pulling on the intestines, the cervix or uterus, etc.

One of the difficulties of the hand method of administration, in contra-distinction to mechanical methods, is that the anæsthetist never quite knows what percentage of anæsthetic the patient is getting and if he is attempting to keep the patient under lightly, he may without realizing it allow him to come out and then wishing to correct his error he is apt to give more anæsthetic too suddenly or in too great an amount which may make the patient retch. By the mechanical method we know that if after the first twenty minutes the patient is properly anæsthetized by the administration of a certain number of drops per minute, the continuance of the administration of this same number of drops will insure the patient remaining properly anæsthetized, and we can actually maintain the same number of drops per minute, with this apparatus. There is no guess work. The anæsthetist need never feel, therefore, that the patient is going to come out no matter how lightly he may have him anæsthetized. This gives a great feeling of security to the anæsthetist who ordinarily is kept on pins and needles unless he has his patient so deeply under that he knows there is no danger of any sudden change. Again, toward the end of a long operation, the anæsthetic may be reduced so slowly and evenly that at the end of the

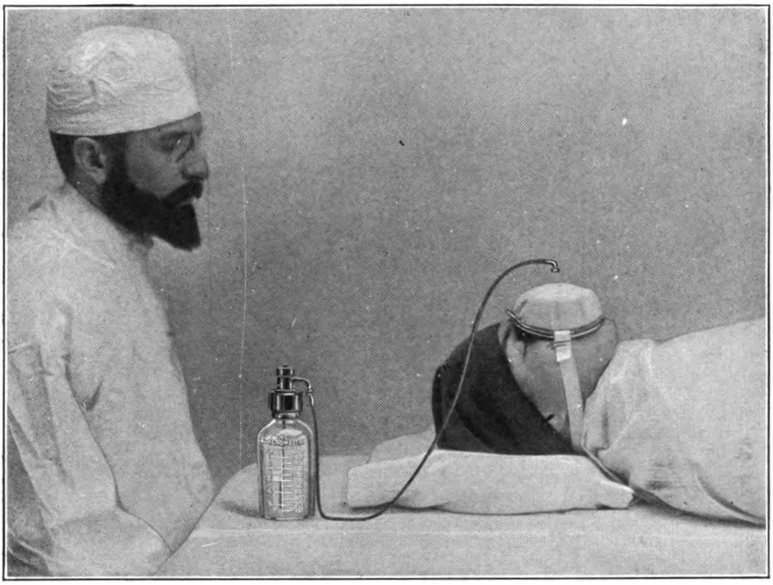

FIG. 1.

operation, though ether has been used, the patient will be well out of the effects of the anæsthetic.

The Etherometer is primarily an apparatus for the scientific administration of an anæsthetic, but in addition it happens to be a labor-saving device. Heretofore, the administration of anæsthetics by the open-drop method has necessitated manual skill and muscular effort in addition to the knowledge of anæsthesia. By means of this apparatus the necessity for skill and muscular effort is done away with and we need only a knowledge of anæsthesia to properly administer an anæsthetic with this appliance. The hands are free. This is a very great advantage. The jaw may be held up with both hands which is often quite necessary. The table may be adjusted without stopping the anæsthetic. In fact after an anæsthetic has been initiated very little attention is really necessary. The operator, if he has a knowledge of anæsthesia, might almost administer his own anæsthetic without fear of his patient being too lightly or too deeply anæsthetized. The use of the long flexible metallic tubing and the sight-feed, which important features of this invention make it possible to administer anæsthetics in neck or breast cases without the anæsthetist interfering with the operator. A towel may be thrown over the mask and the patient observed only at intervals.

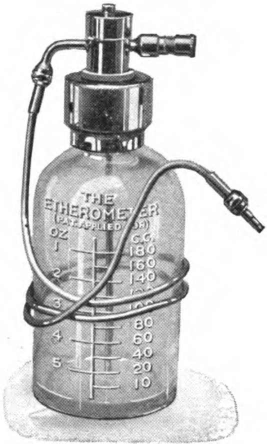

FIG. 2.

I might continue to dwell upon the many advantages of the mechanical administration of anæsthetics, but I have given sufficient evidence of these advantages to convince you of the importance of considering this method.

In conclusion, I wish to say that I believe the mechanical administration of anæsthetics, as I have described it, the best and most universally applicable of all of the methods of anæsthesia with which I am familiar, and that the apparatus which I have described and named the Etherometer is both simple and efficient in carrying out this method.

In a later paper I hope to describe some other applications of this apparatus in connection with mechanical anæsthesia.

ADINOMATOID HYPERPLASIA OF THE ENDOMETRIUM IN A GIRL NINETEEN YEARS OLD.

BY

DR. HERMANN GRAD,

Attending Surgeon, Woman's Hospital.

THE case reported in this paper is of interest because of the intensity of the pathologic process, the youth of the patient, and the rapid recurrence after operation. I shall first take into consideration the clinical side of the case:

Miss E., age eighteen, American by birth, was first seen in consultation with her physician on July 12, 1912. The patient looked anæmic, was of average height, weighing 126 pounds. Examination of the chest revealed nothing abnormal. Examination of the abdomen showed simply a volitional rigidity of recti on palpation. The patient was complaining of a vaginal discharge of pale bloody color and some backache. Menstruation began at fourteen, was regular for one year when it became irregular and she was then curetted, but the curetting was of no avail as the discharge which she had previously had continued. Inspection of the vulva revealed nothing abnormal, hymen intact, but distensible. Bimanually, the uterus is found enlarged but easily palpable. Palpation also revealed a small ovarian cyst on the left side. A tentative diagnosis of an "intra-uterine" neoplasm was made. The patient having undergone the curettage ten months ago without relief, it was thought probable that a polyp of the uterus was the underlying cause of the excessive flow and constant metrorrhagia, and as the presence of the ovarian cyst called for abdominal section, it was thought best to explore the uterine cavity by a hysterotomy and remove the offending neoplasm, if present.

Accordingly, on July 17, 1912, the abdomen was opened in the median line below the umbilicus and a small ovarian cyst the size of a grapefruit was removed in the usual manner. The uterus was then incised in the median line through the anterior wall for the purpose of exploration of its cavity. No intra-uterine neoplasm was encountered but the uterine cavity was filled with a soft velvety structure of tissue material. A frozen section of this soft material revealed nothing definite, the microscope showing "œdematous tissue." The soft material was removed and the entire endometrium thoroughly curetted and wiped dry. The incision in the uterus was then closed with interrupted sutures of chromic gut, as in a Cæsarean section. The abdominal incision was closed in layers, and the skin closure effected with plaster lace. An uneventful recovery followed the operation.

Ten days later, while the patient was still in the hospital recovering from the operation, the following report was received from the Pathologic Department:

PATHOLOGICAL REPORT OF F. E., NO. 6903.

Anatomical Diagnosis.—Adenomatoid hyperplasia.

Specimens.—Uterine curettings, ovarian cyst.

Macroscopical Examination.—Received a very large amount of curettings, some parts of the curettings covering 2 sq. cm. Also cyst of the ovary, kidney shaped, entirely smooth, outer surface measures 8×5×30 cm. On opening, the cyst shows two chambers separated by a thin membrane and a serous, clear, yellowish fluid escapes. Part of the covering on the cyst seems to be the ovary. Section taken from this part showing at the same time the inner surface of the cyst.

Microscopical Examination.—Mucosa shows intense atypical gland formation with relatively little stroma which, however, is very cellular. There appear many groups of epithelial cells unlimited by basal membrane and lying free in the stroma.

The significance of the above pathological report was explained to the relatives of the patient, and it was advised that at an early date the patient should submit herself to a total ablation of the uterus and adnexa, because of the fear of a malignant process in the uterus.

The patient left the hospital in two weeks after the curettage, soon regained her strength, and enjoyed unusual good health. For three months after the curettage the patient did not menstruate; she then began to have her monthly flow, and continued with a normal monthly period for eight months. The flow was moderate in amount, lasting five days, and without pain. After this period her flow became more profuse and the menses appeared at more irregular intervals. She tolerated this state of affairs for six months, when she presented herself again for examination.

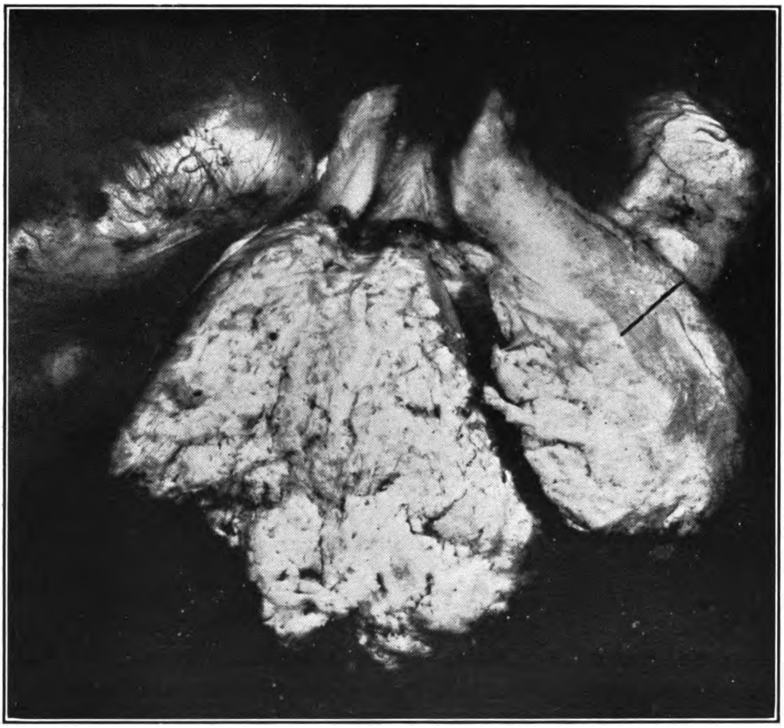

Plate I.—Gross specimen showing extreme thickness of mucosa.

A bimanual examination at this time revealed a greatly enlarged uterus, fully the size of a large grapefruit, evidently the seat of a neoplasm. The patient was advised to submit to a hysterectomy, because it was evident that clinically we were dealing with a malignant process.

On February 15, 1914, nineteen months after the hysterotomy, the patient was operated on for the second time and by an abdominal section, a *pan-hystero-double salpingectomy* and *unilateral oophorectomy* was performed.

The specimen removed is of great interest, and the following is the pathological report of the specimen:

PATHOLOGICAL REPORT OF F. E., NO. 8848

Specimen.—Uterus with adenexæ of one side, tube of other.

Diagnosis.—Adenomatoid hyperplasia of endometrium; diffuse, excessive left hydrosalpinx; cyst of right ovary.

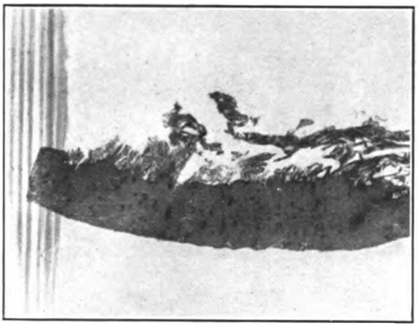

PLATE II.—Section of uterine wall.

Macroscopical Examination.—Uterus with adnexæ of one side and tube of other: Uterus measures about 12×8×5 cm. The cervix shows no laceration, the arbor vitæ is well preserved. Myometrium is about 2 cm. wide. Uterine cavity is filled by large masses of villous tissue arising from the myometrium and substituting the entire endometrium. The widest portion of this villous tissue measures about 2 cm. These masses reach as far down as the internal orifice but do not invade the vaginal portion of the cervix nor the myometrium.

Left tube is changed into a hydrosalpinx 18 cm. long showing several kinks and measuring about 4 cm. in its widest fimbric portion.

Right ovary is changed into an oval cystic body measuring

8×3 cm., to which the tube is closely attached. This tube does not show any marked changes. Both adnexæ and still more the posterior uterine wall are covered with numerous thick, ragged adhesions.

Microscopical Examination.—Mucosa is occupied by an excessively hyperplastic tissue composed of widely dilated glands and soft, œdematous stroma. The epithelium of the glands is often heaped up into two and three layers, showing some optical unrest. In other places the epithelium is very low, flattened where the glands form wide cysts; the type of gland is that of the interval. The stroma is loose and œdematous without other peculiarities. At the junction of the mucosa and myometrium the glands in some localities penetrate into the musculature, but a free development beyond the basal membrane does not exist. The tips of the polypi are for the most part eroded.

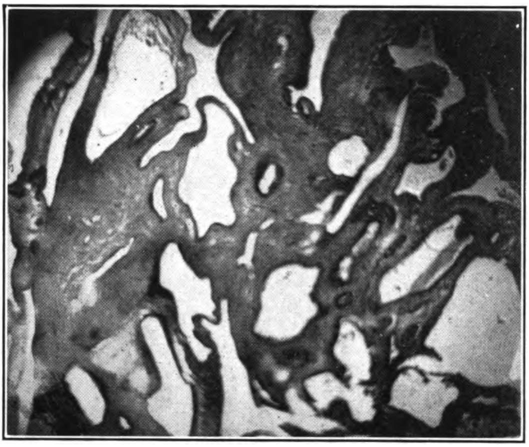

PLATE III.—Mucosa magnified 45 diameters.

DR. STRONG, PATHOLOGIST.

While the pathological report does not show the specimen to be one of malignancy, clinically there is no doubt that this case belonged to the type of malignant neoplasm of the uterus. When the case was first operated on, we were dealing with a normal uterus and a diseased endometrium, and while the endometrium and the soft velvety structure growing from it was entirely removed at that operation, nineteen months later the endometrium had again proliferated to an enormous degree and the uterine body had become enlarged to three or four times its original size. The metrorrhagia of which she had complained before the operation had returned and the patient was undoubtedly losing ground. She was more anæmic and her general health was considerably disturbed. The pathologist says that "at the junction of the mucosa and myometrium, the glands in some localities penetrate into the musculature." This condition doubtless is responsible for the great enlargement of the uterine body found at the time of the second operation.

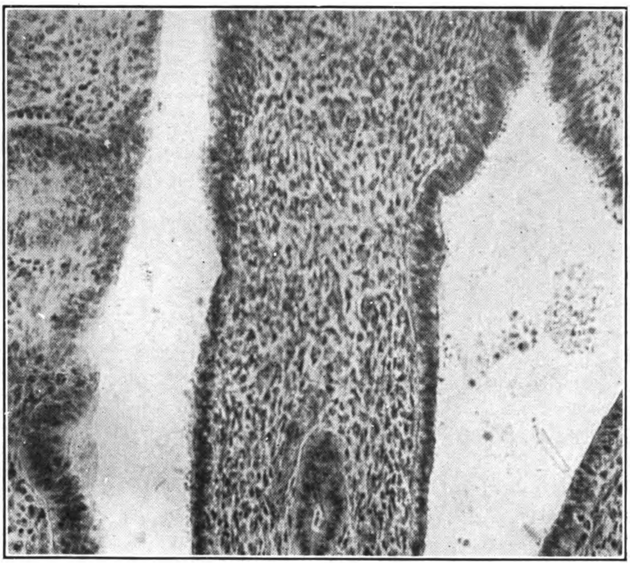

Plate IV.—Mucosa magnified 320 diameters.

If we take a general view of this young woman's illness, we find that we have a pathologic process developing in the endometrium from unknown causes which bring about disturbance in her menstrual function. The uterus is thoroughly curetted with no benefit. A pathologic process is going on in the ovary also, with the development of a cyst of considerable size. A second operation is performed whereby the entire endometrium is thoroughly curetted away and the ovarian cyst removed; but this does not stop the progress of the disease, and within less than two years we find that the entire original process in the uterine cavity has reoccurred. In other words, we are dealing clinically with a malignant neoplasm and yet when the specimen is removed, the pathologist finds no evidence of malignancy under the microscope. Furthermore, at the second operation we find a hydrosalpinx on the left side and a cyst developed in the right ovary, which was not present at the time of the first operation nineteen months previous. At this time, also, both tubes were normal. How did hydrosalpinx come about during the intervening nineteen months? During all this time, also, the patient apparently was in perfect health. She suffered with no abdominal pain, no inconvenience of any kind except her metrorrhagia and the result of excessive flow.

When the patient appeared for the second time at the hospital, her blood examination showed the following conditions: Red cells, 3,300,000; hemoglobin, 60 per cent.; white cells, 91.25; poly., 73 5/10 per cent.; small lymph., 13 5/10 per cent.; large lymph., 10 7/10 per cent.

This shows that the anæmia was considerable and also shows the urgency of surgical intervention.

Following the operation, the patient made a very rapid recovery and up to the present writing, February, 1915, she has remained in perfect health. She has suffered very little from artificial menopause and the patient appears to be permanently cured of her ailment.

It is always of interest to note cases of reoperation and, as the opportunity was present, I was very careful in making note during the second operation of the condition of the incision of the previous operation. The abdominal wall had healed by primary union. There were no adhesions of the peritoneum anywhere to be encountered. The omentum was free of adhesions, but in the pelvis of the patient very extensive pathologic conditions were encountered. The posterior wall of the uterus had become adherent to the rectum and a few coils of intestines. The hydrosalpinx on the left side was lying free. The stump of the ovary of the previous operation had also a number of adhesions and the former incision in the anterior wall of the uterus could hardly be seen, so perfect was the union. There were no adhesions to be encountered at this point in the uterus. There were no adhesions of the bladder to the anterior wall of the uterus.

STROMATOGENOUS UTERINE TUMORS.

BY

LAWRENCE W. STRONG, M. D.,

Director of the Woman's Hospital Laboratories.

THE nomenclature and interpretation of the relations existing between the various forms of uterine tumors included under the terms sarcoma and myoma, together with the combination of these terms is at present confused and inaccurate. This is generally recognized, but there is a feeling among pathologists and clinicians that the subject is not likely to be improved by revision, since the present terms are firmly established by convention and form a fairly satisfactory working system.

Even on the basis of a theoretical systematization it seems worth the effort to consider what might be done in revision of the nomenclature, and from this it may also be hoped that some features of relationship may be indicated which were not made apparent by the terms at present employed.

To start with the simplest illustration it will be at once conceded that the term fibroid is incorrect. The fibrous connective tissue forming the stroma of the common myoma uteri is not a part of the myoma at its inception but grows in secondarily as it does in every form of neoplasm. The term has a universal clinical acceptation, but it might gradually be dropped and superseded by a more accurate expression. The term myoma is clear in itself and is applied to a tumor essentially composed of ripe muscle cells, but the fact that such tumors have graduations into or combinations with other forms has caused differences of opinion and confusion among writers.

It has been proposed by Borst that the termination blastoma should be applied to tumors of all varieties which are composed of adult cells. This is generally conceded to be a step in the right direction and to have no objection other than that of cumbersomeness. By this nomenclature the myoma is changed to myoblastoma, the fibroma to fibroblastoma and these terms will be adhered to in the following pages.

The group of sarcomata is troublesome both morphologically and clinically. It is generally conceded by pathologists that there is no absolute histological criterion which will establish the existence of a sarcoma. The tumor may be defined as a neoplasm of the mesenchymal tissues composed of unripe cells. At once this definition requires further limitations of its boundaries. In the first place, is it to be confined to the strictly supporting tissues as Ribbert uses the term or is it to include smooth muscle nerve tissue, etc., as in Borsts usage? If the former, then some other term must be found for the muscle and glia cell tumors. Ribbert calls these malignant myomata, gliomata, etc. Apart from the objection that the term "malignant" is clinical and hence out of place in a pathological sense, the limitation of sar-

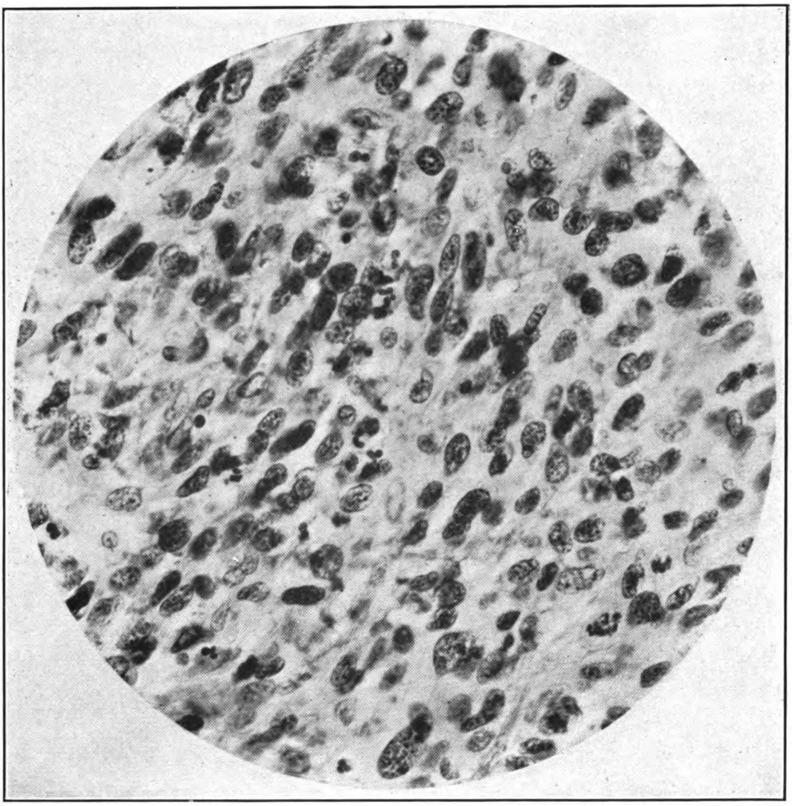

Fig. 1.—Sarcoma uteri. 10324, Dr. Wood. Completely undifferentiated cells. Magnified 550 diameters.

The likelihood of confusion of a richly cellular myoma with a sarcoma rises in proportion to the magnification. This highly magnified area exaggerates the difference between it and the succeeding plates.

comata to the strict supporting tissue is faulty because it creates a double grouping without an essential difference in the two classes. The second question in regard to sarcoma concerns the unripeness of the cells. As we have seen Borst recognizes various grades of ripeness. The fully mature cell tumors are called blastomata. Of the unripe stages Borst makes two divisions, the completely unripe which he calls sarcomata and the partially unripe which he calls blastosarcoma with a prefix, denoting the type of tissue involved, thus fibroblastosarcoma, gliomyoblastosarcoma, etc. While this terminology of Borst's answers every purpose in the majority of cases of tumors composed of a single type of cell there are confusing border-line cases which it is our purpose now to consider. It has been said that there is no histological criterion for the diagnosis of sarcoma, the data upon which a judgment is made being richness in cells, number of mitoses and signs of invasion of other tissue. All these factors are merely signs of rapidity of growth and are common to normal regeneration, to neoplasms, to hyperplasia under stimulation and to the process of anaplasia, regression or so-called degeneration, which occurs in all rapidly growing tissues.

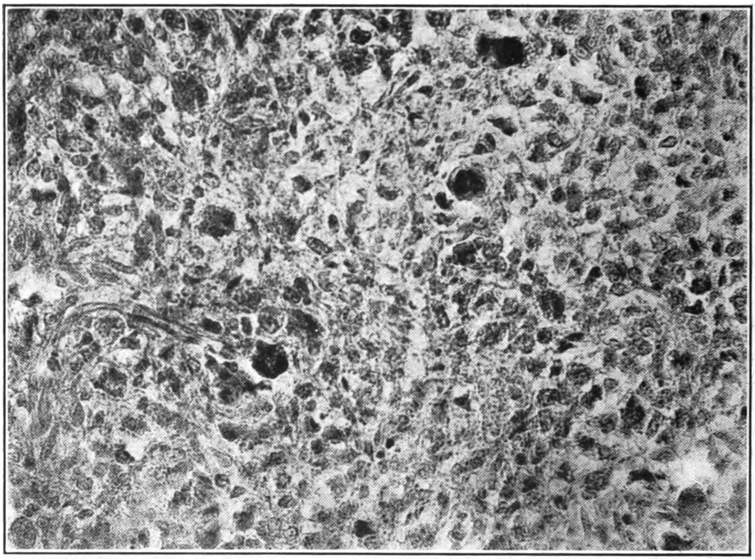

FIG. 2.—Sarcoma uteri. 6842. Giant celled. Magnified 320 diameters.

Ribbert says, "In every growth process and especially in inflammation there is a noticeable increase in the size of the cells, and this is the first step in regression. In regenerating smooth muscle cells there is a regression in the sense that the long and small cells become shorter and more spindle-celled, while the nucleus changes from a rod to an oval. Metaplasia and regression as far as they have a rôle in tumor formation are not sufficient to wholly alter the character of the original tissue, they can never lead to the loss of all specific characteristics of the cell, never to a complete Entdifferenzierung."

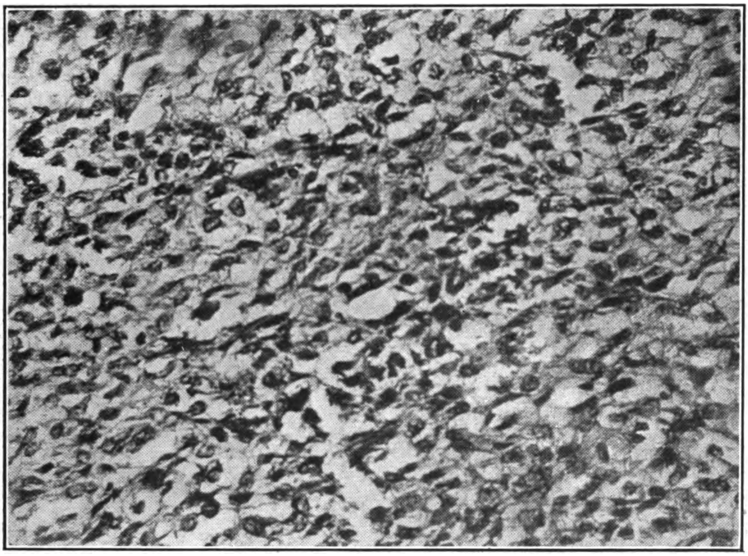

FIG. 3.—Sarcoma uteri. 7627. Magnified 320 diameters. Stellate cells, arising from the stroma uteri. This may produce a sarcoma of the mucosa or of the myometrium.

Against this statement of Ribbert however is the phenomenon which is becoming better and better known of the stimulation of the stroma of tumors to a process of growth which is impossible to distinguish histologically from a sarcoma and which we now have some clinical and experimental evidence for regarding as actually malignant. Borst says of this "Who does not know the highly manifold not-blastomatous but simply reactive growth processes of connective tissue and epithelium which accompanies carcinoma? And how much more difficult is it to distinguish what is blastomatous and what reactive in sarcomas where the tissues grow from the same mother tissue and exactly in the zone of youngest growth are intimately mixed?"

So Borst makes it clear that he does not regard these processes as sarcomatous, but there are facts extremely suggestive of the origin of some sarcomata in this way. Thus the phenomenon of the Ehrlich Apolant transplants, where a mouse carcinoma was converted into a sarcoma suggests the stimulation of the stroma with a subsequent overgrowth and ultimate suppression of the carcinoma. This metamorphosis has been repeated in the case of other experimental tumors, and further evidence of the same sort is offered in the case of Krukenberg's tumors of the human ovary as well as of other forms of carcinosarcomata.

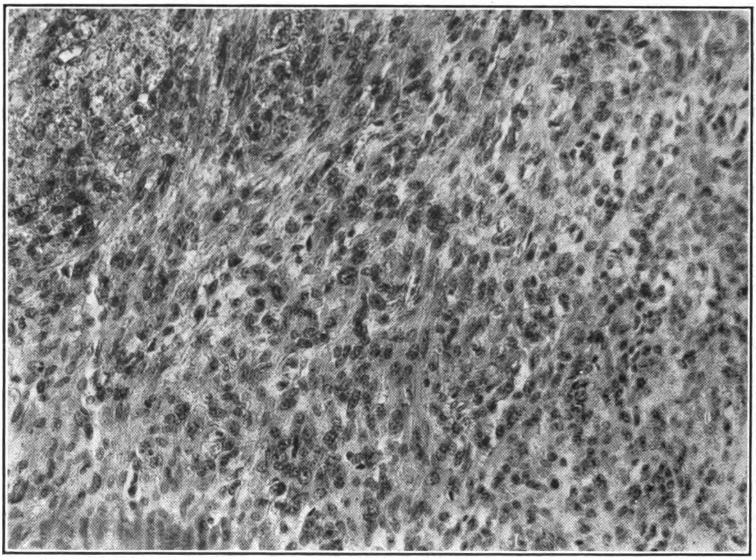

FIG. 4.—Aplastomyoma uteri. 8532. Magnified 320 diameters. Myomsarcoma; myoma sarcomatosum. Mildly malignant.

This is of especial interest since it shows the development of malignancy subsequent to anaplasia. It is not to be assumed that the stroma cells had the hidden quality of malignancy inherent in them only to be called into activity after the anaplasia.

The true nature of malignancy is still obscure but the facts thus far cited throw some light upon the processes involved in its development.

We make this inference from them that it is a process of anaplasia, of Entdifferenzierung, Ruckschlag, regression or degeneration as it has been variously termed. That anaplasia may occur without malignancy is not to be denied, but that anaplasia is the only ocular evidence of malignancy and must be accepted as its outward expression is equally certain.

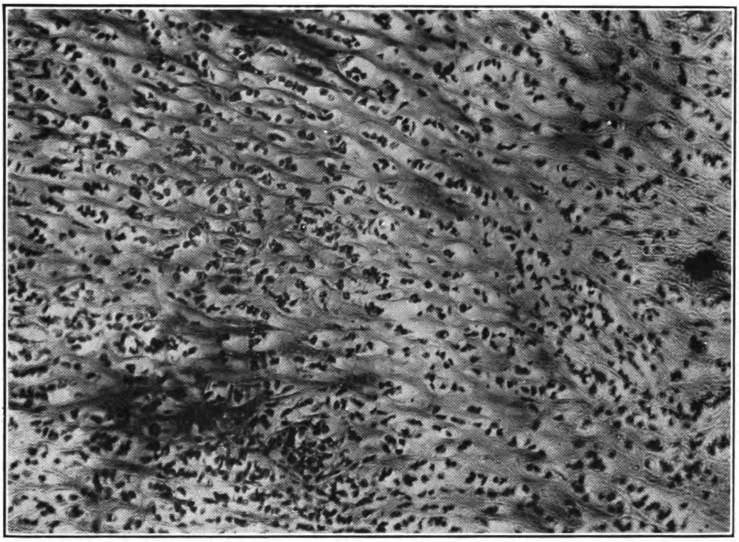

FIG. 5.—Aplastofibroma uteri. 9396. Magnified 320 diameters. The large amount of collagen fibrils distinguish this from the myoma which it resembles in gross. This contains only traces of muscle tissue.

Other terms, as metaplasia and heteroplasia have been used in this connection, but though both these processes may and do occur in neoplasms it is anaplasia that shows the development of malignancy.

This conclusion does not deny the possibility of the occurrence of sarcomata in other manners, as by the growth of embryonal cells, misplaced or left over in the process of development. That such dislocated and undeveloped cells occur everywhere in the body is the common finding of embryology. That they remain as slumbering cells until some unknown stimulus sets them into activity from which they develop a malignancy is the hypothesis which is widely accepted. At all events both this hypothesis and that of anaplasia assert the existence of undifferentiated cells for sarcomata. Meyer objects to the term anaplasia for the process above described on the ground that it is not proved that this is an anasplastic process, but that it is possible that both the unripe and the ripe cell sprang from an ancestral unripe cell. This would be aplasia, a wider term than anaplasia and hence even more adaptable in describing these tumors. Myer admits that he regards most of the cases of variation in cell structure as regressive or degenerative but he does not wish to apply the term anaplasia to visible structural alterations. The term aplasia, however, is not open to Meyer's objection and as it is more universally applicable to the processes involved it will be adopted here.

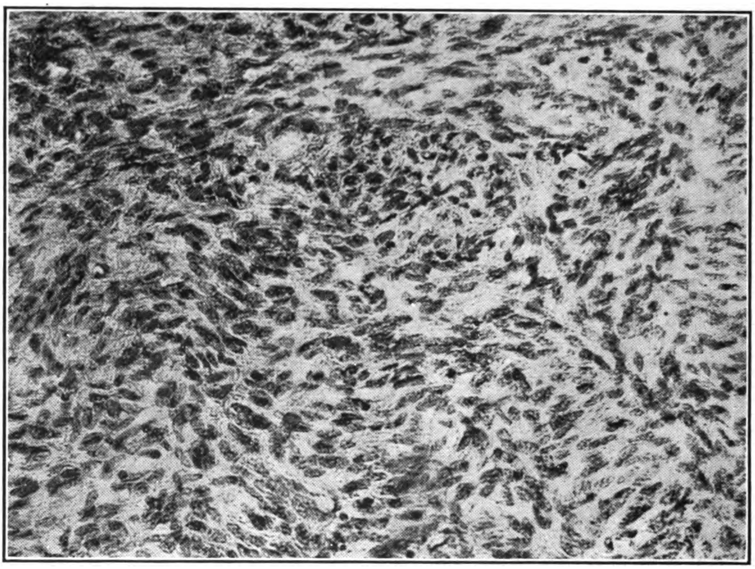

Fig. 6.—Anaplastomyoma. 8422. Magnified 320 diameters.
So-called sarcomatous degeneration of a myoma. An extremely cellular, rapidly growing myoma, showing transitions into a typical myoblastoma (fibroid).

The purpose of the discussion to this point has been to indicate the cytogenic process by which sarcomas arise and to define the essential characters of their cells. From this merges the fact that one class of sarcomas at least is composed of undifferentiated cells, aplastic from their inception. It seems desirable to the writer to limit the term sarcoma to this type of tumor which is easily separated clinically and histologically from other forms. For the other forms, which differ from this in showing some grade of ripeness of the cells, Borst has proposed the designation blastosarcoma with the prefix of the type cell. Apart from the cumbersomeness of such terms as fibroblastosarcoma there is the objection that it introduces the term sarcoma, which we have just stated should be limited to the wholly undifferentiated cell tumors. It is unfortunate to introduce a term which already has a well recognized meaning of malignancy into a group of tumors which are only mildly or locally malignant. For this reason it would be desirable to have a separate designation for this midgroup of tumors merging into the completely ripe cell on the one hand and into the wholly undifferentiated cell on

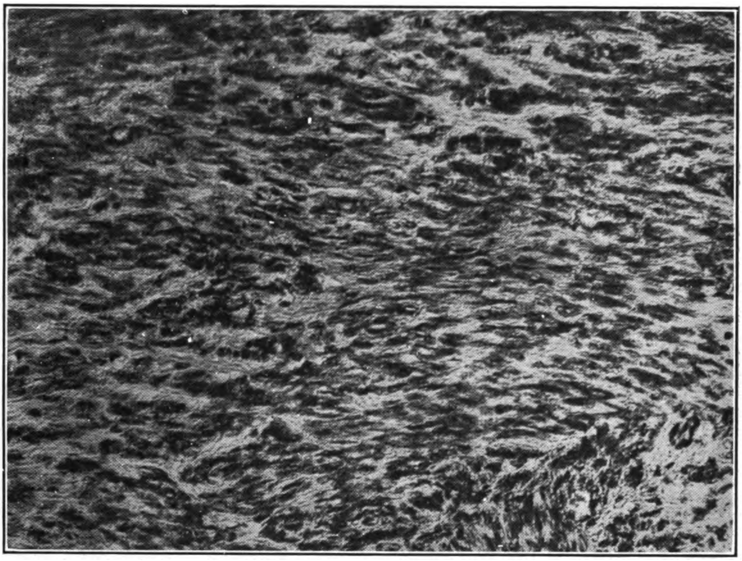

Fig. 7.—Myoblastoma uteri. 9784. Magnified 320 diameters.
Very cellular myoma, such as have been incorrectly classed as myosarcomata. This plate shows the difficulty of judging a tumor from a single section or from illustrations.

the other. Such a designation would be the term aplastoma which would indicate the type of formation of these tumors without any unfortunate combinations of terms, themselves to be avoided on account of the likelihood of confusion. The type of cell of the particular tumor should be used as suffix, thus aplastofibroma, aplastomyoma, etc. The type cell is the one important element from which every form of tumor should be named, and both the slowly and the rapidly growing forms should be included in one group.

MESENCHYMAL CELL
Descendents
Connective Tissue, Muscle, Bone, etc.
Tumors.
Differentiated

Fully	*Partly*	*None*
Blastoma	Blastosarcoma or Type-cell aplastoma	Sarcoma
Benign	Mildly malignant	Malignant
	Varieties	
Fibroblastoma	Aplastofibroma	Sarcoma
Myoblastoma	Aplastomyoma, etc., instead of	
Chondroblastoma	Myoblastosarcoma (Borst)	
Osteoblastoma	Malignant myoma (Ribbert)	
Lymphoblastoma		
Glioblastoma, etc.		
	Sub-group	
	Anaplastomyoma	

As at present employed we continually meet with a variety of compound terms, namely, myosarcoma, myoma malignum, sarcoma myocellulare and sarcomatous degeneration of myoma. These may or may not all refer to the same thing depending upon the different interpretations of the various writers. This confusion may be eliminated by a consideration of the processes of tumor formation and an application of the terminology we have suggested.

The class of tumors to which the above designations have been applied is that of either a rapidy growing tumor composed of muscle cells of one degree of ripeness and that a partial one, or else of all degrees of ripeness from the fully mature down to the very slightly developed cells showing no differentiation and which taken by themselves cannot be distinguished from those of sarcoma. The first variety, that of the partially ripe muscle cell, has been variously described as sarcoma myocellulare, myoma malignum, etc., and would be satisfactorily described by Borst as leiomyoblastosarcoma.

Considering its mode of origin which is that of aplasia, partial development of a muscle cell, the term aplastomyoma appears to have a certain advantage over Borst's more lengthy name.

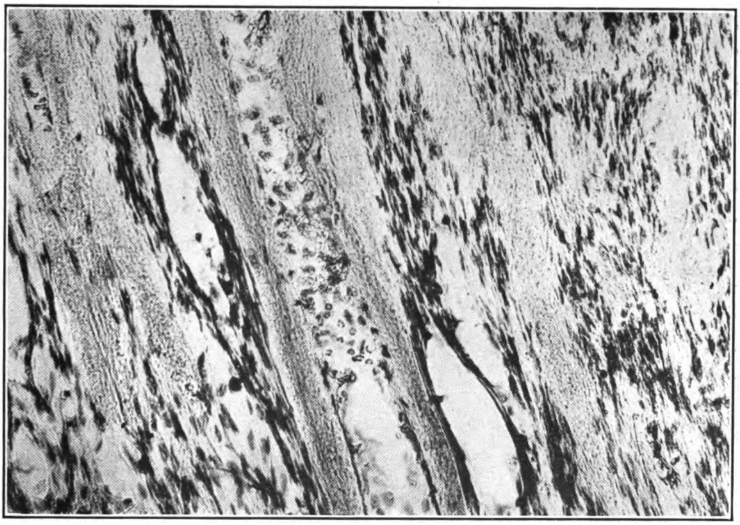

FIG. 8.—Myoblastoma uteri. 9863. Magnified 320 diameters. Common "fibroid," to show the origin of the common hyaline degeneration. A large capillary cut longitudinally shows the lumen (1), the endothelium (2), a broad band of collagen substance deposited just outside the endothelium (3), and the outer wall (4).

The most significant reason for the new term however is to separate these mildly malignant tumors from the true sarcomata.

The second variety of tumor has occasioned a vast amount of discussion and difference of opinion, due chiefly to differences in the conception of its origin. All these differences may be reconciled by the adoption of terms which leave no doubt as to their meaning and which express in themselves the histogenesis of the tumor. The original conception of the origin of this tumor was that of Virchow who thought that a sarcoma started from the connective-tissue stroma of a myoma. Pick later described it as a sarcomatous degeneration of a myoma, with direct transitions of the myoma cells into sarcoma cells. According to modern concepts one form of tumor does not arise from the cells of an entirely different form, thus a sarcoma does not arise from a myoma. But a tumor grows entirely out of its own cells. If it were true that a myoma is always immutably a myoma and a sarcoma is always a sarcoma as has been held, then Pick's view would have no basis of fact. Pick himself says that the "metaplasia" was from mature muscle cells into true sarcoma cells, not merely sarcoma-like cells. These views however must be given up. We have seen that it is by the process of aplasia that a sarcoma arises, whatever the unknown cause of the aplasia. We have furthermore seen that anaplasia produces the same effect in some cases. And so in the instance of these tumors it is by anaplasia that the myoma becomes more cellular, more rapidly growing, until it reaches the point of actual malignancy and may even metastize. For this reason it is appropriate and suggestive to call these forms anaplastomyomata. The term myosarcoma sometimes applied to them should certainly be reserved for the very rare mixed tumor, a combination of a true myoma and a true sarcoma.

This nomenclature has the advantage of distinguishing between anaplasia and aplasia, between "degenerations" and tumors malignant from the onset. This distinction, which the present terms do not indicate, mayoften be surmised, and is dependent upon the presence of transitions. These transitions have been variously interpreted according to the different conceptions of sarcoma and myoma of the various writers. According to the terminology suggested here the transitions explain themselves through the process of anaplasia.

Summary.—Tumor cells show different grades of ripeness. There may be one grade of ripeness throughout the whole tumor or transitions from the wholly ripe to the wholly undifferentiated. The term sarcoma should be limited to the wholly unripe cells. The partially ripe may be called aplastomata, when of one grade of ripeness, and anaplastomata when showing transitions or degenerations.

A SUMMARY OF THREE YEARS' WORK IN THE SERVICE OF DR. DOUGAL BISSELL AT THE WOMAN'S HOSPITAL

BY

E. M. HAWKS, M. D.,

Junior Attending Surgeon

DURING three years, from March 17, 1911 to March 17, 1914, six hundred and six cases were operated upon in Dr. Dougal Bissell's service at the Woman's Hospital. A review of the experience with these cases should be interesting.

There were exactly four hundred laparotomies. Nearly all the work was done in the pelvis, though routine examination of the abdominal organs was made in most of the cases.

The incision, as a rule, was made close to the median line, one rectus muscle being freed and displaced outward. The incision at the outer border of the rectus was used only a few times. It was given up because of danger of injury to nerves and vessels. The McBurney incision too was discarded on account of the limited exposure it gives. Through it the operator cannot examine satisfactorily the uterine appendages, the gall-bladder or even the region of the cæcum. The median incision puts one quite at ease. It may be made large enough to admit the hand with minimum damage to the abdominal wall. The appendix is certainly more easily dealt with through it than through the McBurney incision. In acute conditions the surrounding areas may be more satisfactorily padded off. Drainage may be had through a stab wound or small McBurney incision directly over the place involved or through the vagina if desired. In chronic cases adhesions about cæcum and ileum may be treated to better advantage. In the four hundred laparotomies the appendix was removed two hundred and seventy-two times with few exceptions through the median incision. The writer used the transverse incision frequently at first but now seldom chooses it. It leaves a firm wound with minimum scar and gives access to the inguinal canal when desired but does not afford the room that the median incision allows. It is practically a median incision after the fascia is opened but has the upper side of the wound in the way. To enlarge it one has to enter the lateral muscles and open up their fascial planes. I have seen an infection extend from it to the lumbar region.

The appendages supplied the most material for operation. The following table shows the amount of work and variety of operations.

Salpingectomy, single	26
Salpingectomy, double	40
Resection of tube, single	24
Resection of tube, double	7
Ovariectomy, single	39
Ovariectomy, double	4
Resection of ovary, single	68
Resection of ovary, double	7
Salpingoophorectomy, single	48
Salpingoophorectomy, double	18

Not included in the list were six large ovarian cysts and two dermoid cysts. There were two deaths among these cases, one within thirty-six hours after double salpingoophorectomy for double ovarian abscess and the other from intestinal obstruction. In the latter case the bowel was kinked by adhesion to raw surface at base of broad ligament in culdesac where ovary had been adherent. There were also two cases of phlebitis.

Operations for retroversion were next in number. Different procedures were used as follows:

Alexander operation through transverse incision	8
Guilliam operation	6
Coffey operation	1
Wiley-Mann operation, plication of ligaments	2
Baldy-Webster operation	1
Ventrosuspension and fixation	19
Bissell operation	36
Bissell operation plus shortening of uterosacral ligaments	7

Bissell's operation, in the writer's opinion, is preferable because it restores the uterus exactly to its normal position and holds it there by union of raw surfaces of connective and muscular tissue. Theoretically there is no chance of obstruction to the venous circulation and practically the relief of symptoms is very satisfactory. The anatomical result has been excellent.

There were sixty-five supra-vaginal hysterectomies with one death from peritonitis following reopening of abdomen to stop secondary hæmorrhage from cervical branch of the uterine. Thirteen complete hysterectomies for carcinoma were done. There were two deaths among these, one on the table from shock and hæmorrhage, the other from peritonitis.

Myomectomy was performed twenty-four times. There were two abdominal Cæsarean sections with one death from peritonitis in an infected case.

The abdomen was opened twenty-seven times solely to free adhesions.

In the upper abdomen very little work was done.

Gall-bladder	8
Gastro-enterostomy	3, 1 death
Resection of intestine	3
Gastrotomy	1

Operations for hernia were as follows:

Ventral, postoperative	8
Ventral, umbilical	4
Inguinal	8
Inguinal, double	1
Femoral	3
Lumbar, postoperative	1

Of the four hundred laparotomies three hundred and sixty-three or nearly 91 per cent., healed by primary union, *i. e.*, only one dressing was necessary. The closure that gave the highest percentage was with plain gut for the layers and silkworm gut for stay sutures. The use of iodine did not improve the percentage of primary union and as it not infrequently made the skin sore it was given up.

There was considerable work done on the kidney and ureter.

Nephrorrhaphy, one side	34
Nephrorrhaphy, both sides	10
Nephrectomy for tuberculosis	2
Nephrectomy for stone	1
Stone removed from pelvis of ureter	2
Ureter transplanted into bladder	2

In three cases the ureter was dissected out through the abdomen, tucked up under ileum and colon and removed with the kidney through a lumbar incision, for renal and ureteral tuberculosis.

In this group one case of phlebitis complicated a right-sided nephrorrhaphy.

There were eight radical operations for carcinoma of the breast with one death from embolism. There were also six cases of innocent tumors of the breast and one abscess.

Of the plastic work perineorrhaphy was the most common operation, being performed one hundred and one times. At first the Emmet operation was done. Then the flap-splitting and muscle operation was taken up. A case of dystocia, however, due to the unyielding band resulting from the overcorrection of the separation of the muscles caused a return to the Emmet operation in women of child-bearing age. When the muscle operation was done in this class only one stitch was used to unite the muscles and that close to the sphincter. There were only four cases of complete tear. Two of them were infected and the operation failed. There was one case of phlebitis and four infections among the perineorrhaphies.

The cervix was amputated fifty times and trachelorrhaphy done thirty-four times. There was one case of phlebitis following curettage and amputation of cervix.

For prolapse, interposition of the uterus was done eighteen times and La Fort's operation once. There were two post-operative hæmorrhages due to venous oozing in the interposition cases and one infection. Packing of the vagina with iodoform gauze was the rule after the second hæmorrhage. In cases of marked prolapse in addition to the interposition the uterosacral ligaments have been shortened in two instances to keep the cervix from coming out.

Vaginal hysterectomy was performed sixteen times with one hæmorrhage in a case in which clamps were used. As a rule Goffe's method with ligatures was used.

For cystocele section of the anterior vaginal wall and overlapping of the fascial planes beneath the bladder was done seven times and Goffe's operation once. These cases were women still in child-bearing period.

The uterus was dilated and curetted two hundred and eleven times. The cervix was badly torn with the dilator in one case.

The Davenport uterine stem was used twelve times for anteflexion or sterility. It was sewed in and allowed to remain in the uterus for two months or past the second menstrual period.

No known harm has resulted from its use. On the contrary there has been almost uniform relief of symptoms and in several cases pregnancy has followed.

In two cases of inoperable carcinoma of the cervix a 60 per cent. solution of zinc chloride was used for cauterization with good results. It was applied incorporated in a small tampon after the growth had been burned away with the actual cautery and left in place twenty-four hours. The vagina must be well protected with vaseline. After a few days a slough is cast off, leaving a clean surface which heals quickly. In one case it was repeated twice in a period of nearly two years.

There were two cases of carcinoma of the bladder operated upon through the supra-pubic space. The growths and portions of wall of bladder were removed. One case died a few days after operation. The other lived two months.

Two vesico-vaginal fistulæ were closed successfully at the first attempt. Silver wire sutures were used.

Posterior colpotomy was done fifty-three times, principally for drainage in the inflammatory cases.

The remaining cases should be added:

Vaginal Cæsarean section for eclampsia	1
Diverticulitis of the sigmoid	1, died
Excision of vulva for kraurosis	1
Abscess or cyst of Bartholin's gland	4
Urethral caruncle	2
Cervical polyp	2
Hæmorrhoids	12
Fistula in ano	3
Rectovaginal fistula	1
Vaginal cyst	1

Local anæsthesia was not used. There were only two cases of shock and they could be attributed to hæmorrhage or sepsis.

Phlebitis played an important part in the morbidity occurring seven times or once in eighty-six cases.

Postoperative colon infection of the urinary tract was recognized in six cases. In some it began with chill, high temperature and pain in the side, but in others there was no symptom other than temperature and it was then diagnosed only by culture of urine and exclusion of other possibilities. It was not demonstrated in the blood.

The mortality was thirteen, or 2.14 per cent. Six had carcinoma.

FIBROMA MOLLUSCUM.

(WITH CASE REPORT)

BY

EDWARD A. BULLARD, M. D.

FIBROMA, Fibroma Molluscum, Molluscum Fibrosum, Molluscum Simplex, Molluscum Pendulum, Molluscum Non-Contagiosum is a connective-tissue new growth occurring as one or more, pedunculated or sessile, soft or firm, usually rounded, but sometimes flattened, painless tumors of various sizes, rarely more than 3 inches in diameter, located beneath and in the skin of any part of the body, most commonly on the trunk.

This condition is seen most often in Eastern countries, and though uncommon in Europe, it is found more often there than in America. It may be fairly called a rare disease. According to statistics of the American Dermatological Association gathered over ten years ago, fibroma molluscum made up less than 1/10 of 1 per cent. of all dermatologic cases. At the Good Samaritan Dispensary 30,000 consecutive cases of skin diseases were seen between the years 1887 and1895 with not one diagnosis of fibroma molluscum.

The etiology of this condition is as obscure today as it has been ever since the first cases were reported in the early part of the last century. The disease occurs in all races and both sexes. Most cases develop in childhood or early adult life, though rarely it is congenital and occasionally it does not start until middle life. Many observers, among them Calwell, Octerlony, Atkinson, Anderson, have had cases in which heredity appeared to play a rôle, as for instance, Virchow's case, who had brothers, sisters, father and grandfather, all affected. It has been noted by Hartzell, Calwell, Pringle, Anderson, Hebra, Pooley and others, that patients having these tumors are frequently subnormal, mentally or physically. It may be that traumatism is an influence in the production, or more likely, the site of fibromata, but this is still a moot point.

Fibromata may vary greatly in size, number and shape. When occurring singly the tumor is likely to become pedunculated eventually. Ordinarily such a one will not exceed the size of a large orange, but Tappey reported a very large one which hung from the interscapular region to the buttocks. The pedicle was 4 or 5 inches wide, containing very large blood-vessels, nerves, and a fibrinous gelatinous tissue. The tumor itself was a fibrous mass weighing about 6 pounds and enclosed in a bag of skin. Commonly, however, molluscum fibrosum is multiple and occurs in any location, though rarely invading the mucous membranes of the mouth, nose or genitals. Some of the growths may not be larger than a small bit of shot. A few cases are on record in which the patients had tumors crowded all over them. Hashimoto's patient had 4503 tumors, Octerlony's case had 2333 and several more have been reported in which the numbers ran well into the hundreds. In most cases the tumors are rounded and average about a half inch in diameter. The skin covering these growths is usually unchanged but occasionally it is found tense and reddish, though rarely ulcerating. The pedunculated tumors are frequently covered by skin that has become quite brown.

In some instances absorption of part or all of the interior of the tumor takes place leaving a flaccid skin pouch with sometimes a little gelatinous material in the centre. This occurs oftener to the pendulous tumors than to the more sessile ones. The case reported in this paper falls under the former type.

Stelwagon says, "Occasionally the tumor growths are ill defined, consisting of irregular and nodular, confluent, wrinkled, and fold-like masses, and when such formations are numerous and of gigantic size, they give the patient in regions an elephantine appearance—the extreme development which seems really a combination of fibroma, elephantiasis and dermatolysis, giving rise to the appellation, 'elephant man.'"

Recklinghausen, Atkinson and others noted cases in which neurofibromata were intermingled and Gallant and Smith reported tumors as fibroma molluscum which were probably really neurofibromata.

It has been frequently noted that the subjects of mollusca have present or have had various pigmented spots, moles and the like, and some observers have felt that this condition bears a relationship to fibromata.

Brickner in 1906 reported several cases of a new clinical entity which he called Fibroma Molluscum Gravidarum. These are tiny, pedunculated skin tumors, many no larger than the smallest wart which usually appear in the latter half of pregnancy distributed over the neck and upper chest, frequently but not invariably pigmented, histologically identical with fibroma molluscum but clinically differing by their total disappearance postpartum coincident with other regenerative processes.

Hirst, in 1911, reported a peculiar case in which pregnancy exerted a stimulating influence upon fibroma molluscum. This woman had a few growths which had been quiescent for many years. With her first pregnancy the tumors increased in number and size. After labor the progress of the disease stopped but the growths did not decrease. During every pregnancy the same increase in size and number of her tumors occurred and they were stationary in the intervals between gestations.

The question of the pathology of molluscum fibrosum has brought forward several theories. Most students agree that *the growth is a hyperplasia of connective tissue largely of the fibrous type*, but there is difference of opinion as to whether the connective tissue of the corium, the walls of the sebaceous glands and hair follicles, or the framework of the fat globules is the real starting point. The reason for this hyperplasia is still unknown. Some investigators believe all the growths are really neurofibromata, which is probably incorrect. Certainly the weight of opinion is against this theory.

"The early tumors and the centre of the older growths are embryonic connective tissue. The density increases toward the surface, the larger ones having a firm fibrous sheath." (Jackson.)

There is not often any change in the skin covering these tumors except occasionally the ducts of sebaceous glands become enlarged and comedones may result. The blood supply to the growths is usually quite generous.

Anderson, Pringle and others have speculated upon the meaning of the occasional association of fibroma, adenoma, sebaceum and neurofibroma and some of them feel that all these growths may have a common pathologic relationship.

The differential diagnosis of fibroma molluscum has been so clearly stated by Stelwagon, I can hardly do better than to quote him briefly, "Confusion is most likely to occur with multiple lipoma, but in this latter they are commonly lobular, somewhat flattened, rarely present in numbers, and ever pedunculated. From multiple neuromata they are to be distinguished by the absence of pain, as well as usually by their more general distribution. The growths of molluscum contagiosum are much smaller, rarely numerous, most commonly about the face, especially about the eyelids, and, moreover, are superficial, have a central depression or aperture, are covered by skin which is usually thin, stretched, and has a semi-translucent appearance."

Other possible errors of diagnosis are so very rare and improbable that they are hardly worth mentioning, such, for instance, as granuloma fungoides, soft warty moles, gummata, sebaceous cysts, and the lesions of leprosy.

Of course there is nothing about these tumors that is directly injurious to health, but they rarely involute, and in fact usually increase in size and numbers. Thus they are likely to become very unsightly, uncomfortable, unduly liable to injury, and a good deal of annoyance, especially to a nervous individual.

Medication has been found practically useless in the treatment of this condition, though Whitehouse had a case of rapid disappearance of the tumors under the administration of arsenic (Asiatic pills). Electrolysis has been effective in the treatment of some of the smaller growths. Generally, however, some form of surgical removal is best. Care should be taken to do the work thoroughly as recurrence has been noted often.

REPORT OF A CASE OF FIBROMA MOLLUSCUM PENDULUM OF LABIUM MAJUS.

Mrs. M. M. came to Dr. Cleveland's Out-patient Clinic of Woman's Hospital the first time December 4, 1913. Age thirty-eight, married fourteen years. Occupation, housework. Nativity, Austria.

Previous History.—Has been a very robust, vigorous woman up to the past six months.

Menses.—Always normal.

Marital History.—Has had two children, the last one six years ago, and both labors were terminated by forceps. Patient states that she knows she was "torn" at last delivery. Neither of her children has any kind of skin disease or tumors.

Present History.—For six months, patient has had increasing in intensity, frequent urination, backache, headache and leucorrhœa, and has noticed that something protrudes from the vagina when she coughs or strains. These are the symptoms from which she seeks relief, but she admits that she has a "small lump" hanging from the left side of the vulva, which has been steadily growing since she first noticed it about two years ago but which causes her no annoyance of any kind.

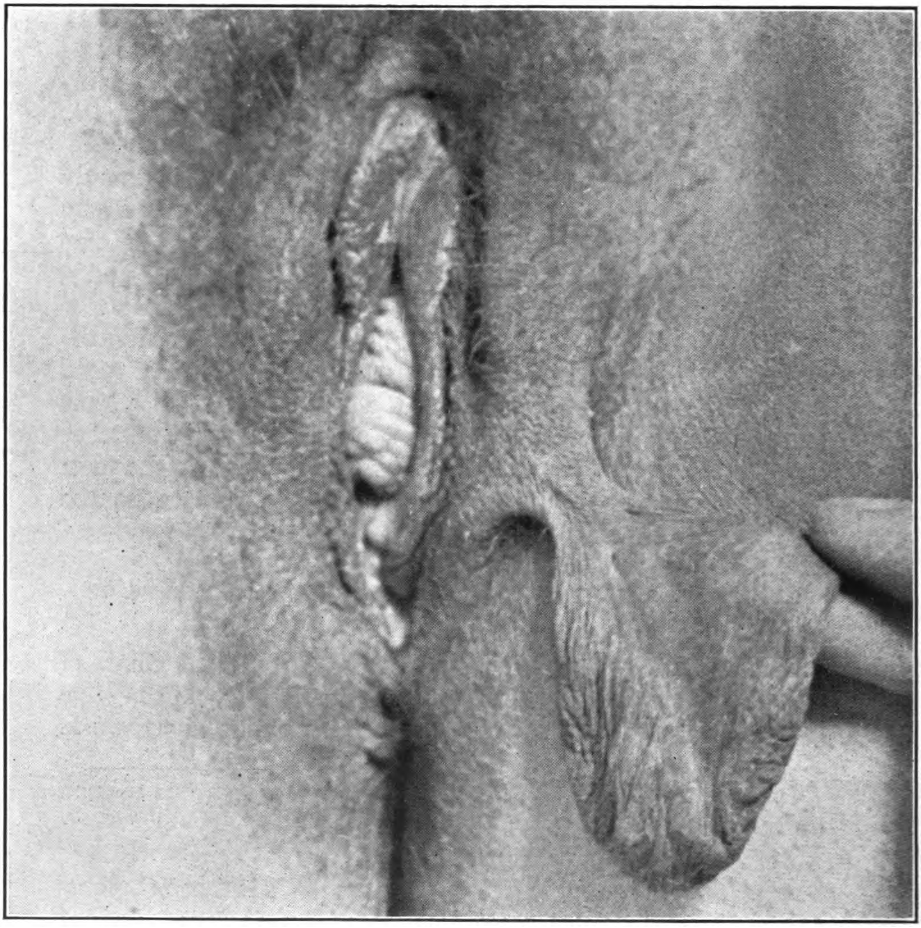

FIG. 1.—Fibroma molluscum.

Physical Examination.—A very well developed and obese woman appearing to be in excellent health. She seems to possess the average mentality of one of her station in life.

Heart and Lungs.—Normal.

Skin.—Normal, except that she has about twenty moles, small and not pedunculated, scattered about the trunk and arms.

Abdomen.—Normal.

Genitalia.—A cystocele of moderate size, slight laceration of the perineum, bilateral laceration with erosion of the cervix. Uterus, normal. Appendages not palpable. No tenderness anywhere about the pelvis.

Attached to the posterior end of the left labium majus by a pedicle about 1 1/2 inches long by 1/4 inch in diameter, is a bag-like mass about 2 inches in diameter. In appearance it closely resembles an empty scrotum, except that there is no hair on it. The skin is somewhat darker in color than that of the labia majora, and is in wrinkles and folds resembling those of a scrotum. Upon examination of this pendulous mass, one feels that it might be a collapsed cyst, the contents of which has been absorbed or evacuated, as there seems to be nothing palpable inside the sac walls. It is not in the least tender.

Patient was admitted to the service of Dr. Clement Cleveland, and on Jan. 12, 1914, Dr. E. W. Pinkham removed this molluscum pendulum by excision of the attachment of the pedicle in the labium majus. Curettage, bilateral trachelorrhaphy, perineorrhaphy and anterior colporrhaphy, were also performed. Patient made an uneventful recovery and thus far (March 20, 1915) there has been no recurrence at the site of excision.

Laboratory Report on Tumor.—Pedunculated tumor, covered by skin, globular in outline, 4 cm. in diameter. Pedicle 1/2 cm. in diameter. On section there appears loose areolar tissue evidently enlarged sinuses. There is no cyst cavity. Gross diagnosis is fibroma molluscum.

Microscopical.—Section shows a skin surface with considerable cornification and an increase of pigment, and below this is a subcutis composed of dense connective-tissue strands with wide sinuses. The centre is of loosely meshed connective-tissue strands. The whole tumor is composed of hyperplastic connective tissue which has a dense periphery and a spongy centre. No inflammatory reaction.

From a search of the literature it appeared to me that fibroma molluscum is a type of tumor sufficiently rare to warrant a report. Then, too, upon consideration of the case it became evident that it differed in several respects from the average case of molluscum. Whereas this variety of tumor is often multiple, many cases having had thousands of growths, a thorough examination of this patient and most careful questioning elicited the fact that she had never had any kind of a growth except this one. In a considerable search of the monographs and text-books, I was able to find only one other case of this tumor occurring about the vulva. Dr. G. M. Tuttle removed a large non-pedunculated one from the labium majus. However, it seems highly probable that some of the extreme multiple cases had genital tumors. Many observers have noted mental or physical deficiencies in the subjects of this peculiar disease. My patient insisted that she was well informed as to all her relatives and that all her people were strong and vigorous and without mental abnormality. She herself is unquestionably normal in mind and body. Heredity, in the opinion of several observers, occasionally plays a rôle, but in this case it is absolutely negative.

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BRIEF REVIEW OF THE SUBJECT OF ADENOMYOMA UTERI AND RELATED CONDITIONS.

BY

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THE object of this article is to explain briefly the conditions known among pathologists as adenomyoma, adenomyometritis, salpingitis isthmica nodosa, mesonephric tumors, etc., conditions occurring mostly in the female genital tract. The reason for this is apparently the lack of clinical significance, although the pathological changes are very distinct and have caused many controversies among histologists, chiefly abroad but to some extent also in this country.

The one all-important morphological factor common to all the above-mentioned pathological changes is the occurrence of glands lined with a single row of a columnar or cubic epithelium in certain strata of the uterus, the tube or the ovary, where normally no such structures are found. Almost always we find surrounding such glands, located in an extraordinary stratum of the uterus, a characteristic "cytogen" stroma. This stroma is derived from the mucosa uteri, although prominent workers on the subject have denied that the cells of that stroma have any histogenetic relationship to the stroma cells of the mucosa uteri. This question will be discussed later.

Uterus.—In the uterus we distinguish two conditions in which such aberrant glands usually accompanied by a typical stroma occur in the muscularis uteri (Fig. 1). If these glands penetrate part of the muscular stratum without causing the formation of a tumor, but simply passing their normal boundaries, the condition is called adenomyometritis uteri. Robert Meyer is the author of this term and distinction. There is sometimes a widening of the entire myometrium, but this latter occurrence, being very frequent in so-called metritic uteri, is in no way an essential morphological point. There is generally no sign of an acute or chronic inflammation nor even the remnants (cicatrices) of such conditions. The invasion of the musculature by glands causes no clinical symptoms and the macroscopical inspection as well fails to give any clue, so that the diagnosis is entirely a microscopic finding. A rough definition of adenomyoma uteri might be an adenomyometritis of an excessive type with an increase of the musculature in one portion of the uterus to the degree of forming a tumor-like growth. An adenomyoma is, as the term indicates, a smooth muscle-cell tumor containing glands of an adenomatous character. Morphologically it differs from the myoma in its indistinct boundaries, in its lack of encapsulation; the mucosa itself usually shows no changes. Macroscopically one often sees numerous shallow gaps in the myometrium. These are penetrated by glands and may extend as far as the serosa peritonei. The tube corners are most frequently affected and often form large bulbs attached to the uterus. It is in some cases impossible to determine whether the entire structure originates from the tube corner of the uterus or the isthmic portion of the tubes. This leads us to consider the analogous pathological changes of that part of the tube adjacent to the uterus. Salpingitis isthmica nodosa (Chiari). The term in itself suggests almost everything that can be said about the macroscopical appearance here present. Histologically one finds that the nodules in the isthmic portions of the tube (always bilateral)

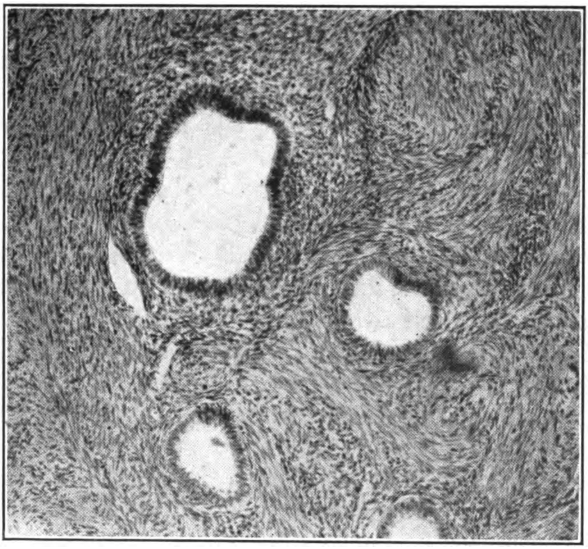

FIG. 1.—Adenomyoma uteri (tube corner) glands surrounded by "cytogen" stroma.

contain glandular structures, without any accompanying stroma, but frequently surrounded by small foci of round-cell infiltrations (Fig. 2). The fact that typical tuberculosis is in many cases the cause of this condition has great bearing on the histogenesis of the abnormal structure found. The invasion of the glandular structures into foreign tissue and the enormous development of the glands sometimes cause the complete disappearance of the original tissue.

These adenomatous growths of the uterus invade in rare cases the neighboring organs (bladder, rectum). These cases are therefore locally malignant, although all other characteristics of malignant tumors are absent (no metastases, no signs of malignancy in the individual cell). Adenomyomata and adenomyometritis may also occur in the colon and in the stomach. This is rare, however, and never reaches the extreme grade seen in the uterus.

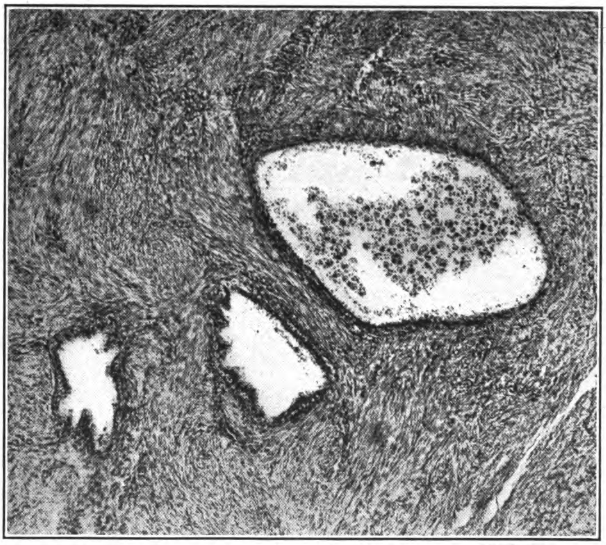

Fig. 2.—Section from case of salpingitis isthmica nodosa tubercular. Typical glands without any typical surrounding stroma. No tubercles in this section.

The first author who discussed the histogenesis and classification of this condition in a critical manner was von Recklinghausen in his famous monograph, Adenoma and Cystadenome des Uterus, etc., Berlin (Hirschwald).

Basing his main conclusions in regard to the histogenesis of adenomyomata, etc., on the studies of von Mihalkovitz regarding the embryologie of the genito-urinary organs, von Recklinghausen stated that most adenomyomata and tube-corner neoplasms were derivatives of the remnants of the Wolffian body or its secretory duct. The latter is called Gartner's duct when present in post-natal organs. von Recklinghausen makes five classes of tumors of the general type under consideration. Of these, two, the adenomyomata and cystadenomata, he finds to be of uterine origin, but the other three, he considers, are from mesonephric remnants. von Recklinghausen's work was the start of an immense literature on all pathological conditions of adenomyomatous character. The most important authors and their works will be discussed in the following lines.

Maresch in a very careful study showed that the salpingitis isthmic nodosa is a postinflammatory condition, to which the muscular hypertrophy is secondary. Kroemer in his studies on normal tubes showed the frequent occurrence of diverticula, the terminal ampulla of which might on section give the impression of glands scattered in the muscularis.

Von Franque denies any other than the inflammatory origin of salpingitis isthmica nodosa.

Robert Meyer who studied the course of Gartner's duct in fœti inclined to side with von Recklinghausen, but in his later excellent studies on glands and cystadenomata of the uterus declares most adenomyomata to be derived from uterine elements.

The subserous adenomyomata derive their epithelial structures from the serosa which originally was covered with epithelium (cœlom). The cytogen stroma originates either from that of the mucosa uteri or from the surrounding connective tissue of subserous cysts. Tumors in the mesosalpinx, the round ligament and the hilus ovarii, such as described by Lecène, L. Pick and Aschoff, are generally held to be of mesonephric (Wolffian) origin. Schickele defends von Recklinghausen's theory even in regard to typical tube-corner tumors.

The foremost American author on this subject is Cullen, who in a monograph (*Festscher. f. Toh. Orth.*, Berlin, 1903) and in later articles holds that all the above-mentioned gland formations originate in the mucosa uteri. He proved that menstrual and decidual changes occur in the scattered glands, also that there is no local recurrence of the adenomyoma after the removal of part of an adenomyomatous uterus. Kossmann derives the tube-corner adenomyomata from accessory tubes or heterotopic Muellerian ducts. That adenomyomata uteri may cause clinical symptoms is held by R. Freund alone. Polano, Pick and Cullen deny that the symptoms can be distinguished from those of simple myomata. Fueth and Schwarz described the invasion of neighboring organs by adenomyomata of the uterus. R. Meyer demonstrated the occurrence of adenomyoma in the colon. The difficulty of identifying these heterotopic glandular structures, with or without tumors, as real adenomata or of other origin is expressed by the many varying opinions now held in regard to them.

The underlying question is the origin of the epithelium, whether from the Wolffian body (Gartner's duct) or from Muellerian duct (uterine and tubal epithelium).

It appears certain that von Recklinghausen's theories are not applicable to the extent their author believed them to be. It is generally accepted that the adenomyomata and glands in the ligamentum rotundum and in the hilus ovarii are Wolffian remains, but the salpingitis isthmica nodosa is probably in the large majority of cases inflammatory (infectious granulomas). The uterine tumors are largely formed of glands from the mucosa; the purely subserous adenomyomata possibly derive their epithelia from the serosa. The latter theory is supported by analogies in the tubes and the ovaries (epithelium from serous endothelium in inflammed abdominal organs). It is so-called mnesis of their original embryonal type (cœlomepithelium). The classification of certain tube-corner adenomyomata is *in suspenso*, especially those in which the glands show no stroma. Ciliated epithelium or cytogen stroma can hardly be called evidences for the derivations from either the Wolffian body or the Muellerian ducts (uterus, tubes). They are present in both. There is no doubt that all sorts of irritants may be the cause of the occasional occurrence of glands in an abnormal place. Very frequently one finds such glands in inflamed tubes. Decidual changes in the stroma of adenomyomata (Cullen) are no certain proofs of their Muellerian (uterine) origin, since such changes occur in other organs even without pregnancy. The derivation of adenomyomata uteri from the uterine glands is greatly supported by the fact that the adenomyoma of the cervix shows typical cervical epithelium (Fig. 3). The examination of the stroma for elastic fibers gives no hint as regards the differential diagnosis of the musculature from the myometrium or from a leiomyomatous growth. The myoma as well as the musculature of the stratum myometrii in which adenomyomata develop contain practically no elastic fibers. There are no distinct clinical signs allowing the diagnosis adenomyoma in viva, although it is true that adenomyomatous uteri are generally bound down by dense adhesions. The adenomyoma as well as adenomyometritis are benign formations, their invasions of neighboring organs is no proof of general

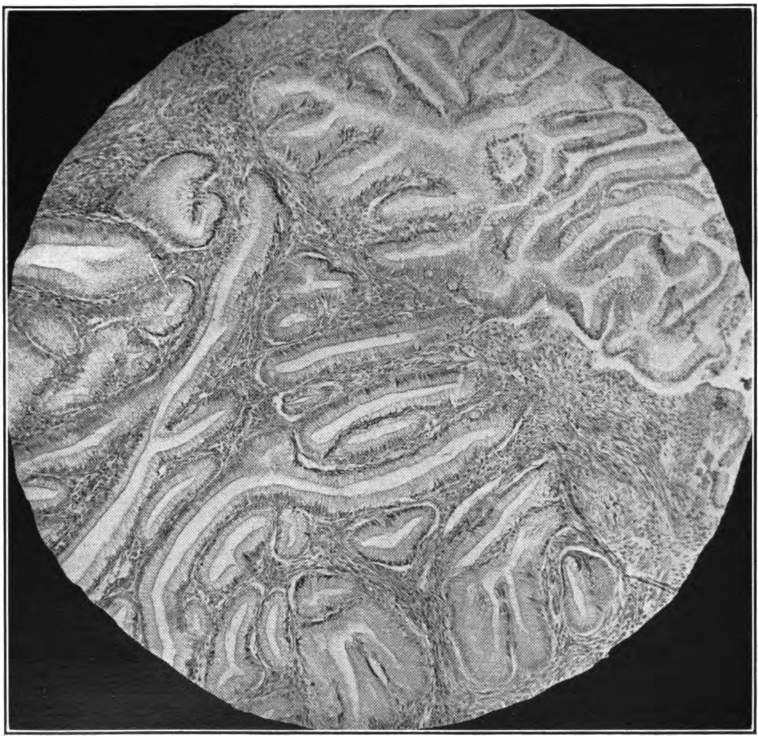

Fig. 3.—Section from adenomyoma cervicale, which invaded the rectum. Note the typical cervical epithelium lining the glands.

malignancy, a fact which should be emphasized when the question of incomplete removal of the growth confronts the surgeon.

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